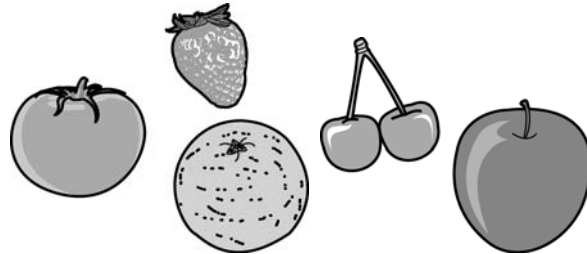


# SITES-M Mathematics Challenge

## School Garden in Order



**Level:** Grade Three

**Standard:** Number and Operations

**Learning Target:** Focus on Compare & Order

### Checks for Understanding

- 0306.1.2** Compare and order decimal amounts in the context of money.
- 0306.2.2** Understand and use the symbols =, <, and > to signify order and comparison.

### State Performance Indicators

- SPI 0406.2.6** Use the symbols =, <, and > to compare common fractions and decimals in both increasing and decreasing order.
- SPI 0306.2.13** Recognize, compare, and order fractions.



# SITES-M Mathematics Challenge Packet

## Focus on Comparing and Ordering Grade 3

### School Garden in Order

The purpose of the Mathematics Challenges is to provide opportunities for students to develop and demonstrate understanding of important mathematical concepts and standards. Each Challenge includes a set of tasks that require higher-order thinking skills. Because these types of tasks may be new for students and they will have varying levels of understanding, the student responses will vary. The Challenges and guiding questions were designed to help teachers plan their implementation and elicit, analyze, and act on evidence of student understanding.

You will be able to choose which Mathematics Challenge Packet to implement each month, according to the learning needs of your students and your teaching context. Each packet contains all the materials necessary to implement the Mathematics Challenge including a grade-appropriate Challenge, the Mathematics Challenge Meeting Protocol, and the Guiding Questions for Analyzing Student Responses to Mathematics Challenges.

For each Challenge, you will complete a six step process of planning, implementation, and analysis and reflection.

#### The Mathematics Challenge Process

Stage	Step	Task
Planning	Step 1.	Review the Mathematics Challenge Meeting Protocol
	Step 2.	Review and solve the Mathematics Challenge prior to your Professional Learning Community (PLC) meeting. Think about your responses to the guiding questions on the Meeting Protocol
	Step 3.	Hold your PLC meeting and discuss your responses to the Guiding Questions on the Meeting Protocol
Implementation	Step 4.	Implement the Mathematics Challenge with your class
Analysis and Reflection	Step 5.	For your own planning and documentation, respond to the Guiding Questions on the Analyzing Student Responses Protocol
	Step 6.	To help us improve the Challenges and to provide recommendations for teachers implementing them in future years, complete the Mathematics Challenge Feedback Log and provide copies of all student work to the Assessment Coordinator

# **SITES-M Mathematics Challenge Packet**

## **Focus on Comparing and Ordering Grade 3**

### **School Garden in Order**

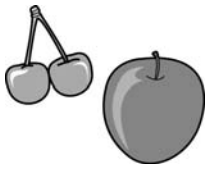
#### **Mathematics Challenge Meeting Protocol**

Each month, your Professional Learning Community will meet to discuss the implementation of one Mathematics Challenge. In preparation for your monthly meeting, please print and review this month's Mathematics Challenge, solve all tasks within the Challenge, and think about the guiding questions below. These questions will be used to facilitate a group discussion regarding the implementation of the upcoming Mathematics Challenge.

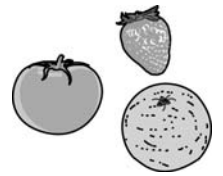
#### Guiding Questions for Implementing the Mathematics Challenges

1. What is the title of the Challenge that you will use this month?
2. What skills or standards is this Challenge measuring?
3. Where does this Challenge fit within your curriculum? Within which unit?
4. At what point during the unit will you administer this Challenge (e.g., At the beginning of a unit to determine what students do or do not know, at the end of a unit to assess what students have or have not learned, in the middle of a unit to determine where to go next instructionally)?
5. How will your students complete this Challenge (e.g., individually, one-on-one, in small groups, as a class)? Why?
6. Are there any prerequisite skills, common misunderstandings, or vocabulary needs that you will have to address? What are they?
7. What difficulties do you anticipate your students will have with the Challenge? How will you address them?
8. Are these skills and difficulties different for special needs students, ELL students, etc.? How? Will you do anything different for these students? What?
9. How will you evaluate student responses (e.g., grade responses with the provided rubric, scan responses to identify common mistakes/misconceptions, have students evaluate one another's responses, have students evaluate their own response)?
10. What will student responses to this Challenge tell you about student understanding?
11. How might you use this evidence of student understanding to adapt your teaching and learning?
12. What other materials, resources, or support might you need? Where can you get them?
13. How can your colleagues assist you in the analysis of student understanding?
14. What other questions or concerns do you have about this Mathematics Challenge?

After you have implemented the challenge with your class, be sure to respond to the Guiding Questions on the Analyzing Student Responses Protocol.



**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**



**School Garden in Order**

**Standard:** Number and Operations

**Learning Target:** Focus on comparing and ordering

**Claims:**

Students should understand and be able to explain or demonstrate how to:

- ✓ Understand and use the symbols =, <, and > to signify order and comparison;
- ✓ Recognize, compare, and order fractions;
- ✓ Compare and order decimal amounts in the context of money.

**Task Preparation:**

Each student will need a copy of the student response sheet, a pencil, and crayons (including red and green).

**Stimulus Cards (Drawing or Word Description):**

None

**Manipulatives/Supplies:**

A copy of the student response sheet for each student

Pencils

Crayons (including red and green)

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**Cues/Directions:**

Distribute student response sheets. Students should be directed to look at each figure carefully. Allow students time to answer.

Instruct students to follow along as you read aloud and say: **Ms. Belen's, Ms. Harper's, and Mr. Liu's classes went to the local farmers' market to sell the fruits and vegetables they grew in the school garden.**

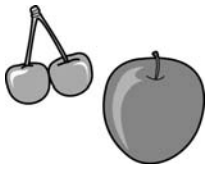
1. Say: **Ms. Belen's class grew 342 strawberries. Ms. Harper's class grew 324 strawberries. Write the correct symbol ( <, >, or = ) to compare the numbers. (TEACHER NOTE: Students should fill in the blank with the correct symbol.) Why did you choose that symbol? (TEACHER NOTE: Students should write their answers in the box.)**
2. **Ms. Harper's class grew 24 ears of corn, and they sold  $\frac{1}{4}$  of what they grew. Mr. Liu's class also grew 24 ears of corn, and they sold  $\frac{1}{3}$  of what they grew. In the pictures below, circle the amount of corn sold in Ms. Harper's class, and circle the amount of corn sold in Mr. Liu's class. (TEACHER NOTE: Have students circle the correct amount of corn in each picture.) Write the correct symbol ( <, >, or = ) to compare the fractions. (TEACHER NOTE: Students should fill in the blank with the correct symbol.) How do you know the symbol you chose is correct? (TEACHER NOTE: Students should write their answers in the box.)**
3. **Mr. Liu's class and Ms. Belen's class each baked apple pies with apples they grew. Each class baked 1 pie of the same size and cut the pie into 8 slices of equal size. Mr. Liu's class sold  $\frac{4}{8}$  of their pie, and Ms. Belen's class sold  $\frac{1}{2}$  of their pie. Color in the number of slices of pie sold by each class. (TEACHER NOTE: Have students color in pieces of the pie with their crayons.) Write the correct symbol ( <, >, or = ) to compare the fractions. (TEACHER NOTE: Students should fill in the blank with the correct symbol.) How do you know the symbol you chose is correct? (TEACHER NOTE: Students should write their answers in the box.)**

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

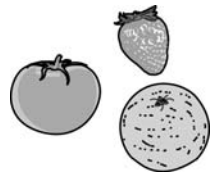
4. Sharon has a bag of 40 cherries. She gave  $\frac{1}{8}$  of the 40 cherries to Dave and she gave  $\frac{1}{2}$  of the 40 cherries to Maria. Circle the amount of cherries she gave to Dave in green, and circle the amount of cherries she gave to Maria in red. (TEACHER NOTE: Have students circle the numbers of cherries with the correct colors.) **Who got more cherries, Dave or Maria? (TEACHER NOTE: Students should mark the correct box.) How do you know? (TEACHER NOTE: Students should write their answers in the box.)**
5. **Some of the money the classes made by selling their fruits and vegetables is in a list below. Put the amounts of money below in the correct blanks so that they are in order from least to greatest. (TEACHER NOTE: Students should put one number on each blank. Note that this list needs to be ordered from least to greatest, and they are ordering from left to right.)**

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**





**SITES-M Mathematics Challenge  
Focus on Comparing and Ordering Grade 3**



**Student Response Sheet  
School Garden in Order**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Ms. Belen's, Ms. Harper's, and Mr. Liu's classes went to the local farmers' market to sell the fruits and vegetables they grew in the school garden.**

- 1. Ms. Belen's class grew 342 strawberries. Ms. Harper's class grew 324 strawberries. Write the correct symbol ( <, >, or = ) to compare the numbers.**

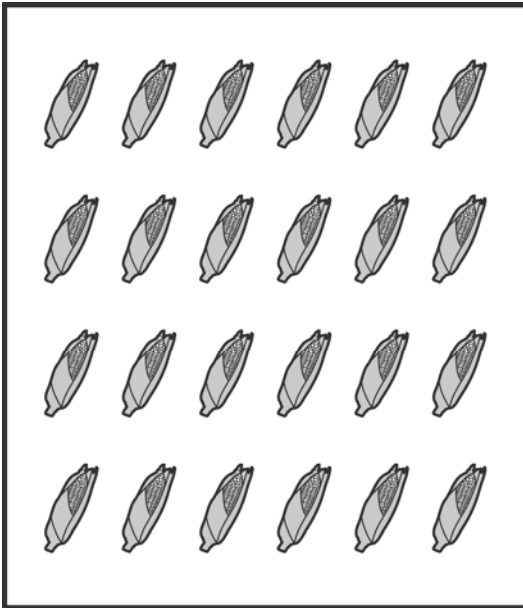
**342 \_\_\_\_\_ 324**

**Why did you choose that symbol?**

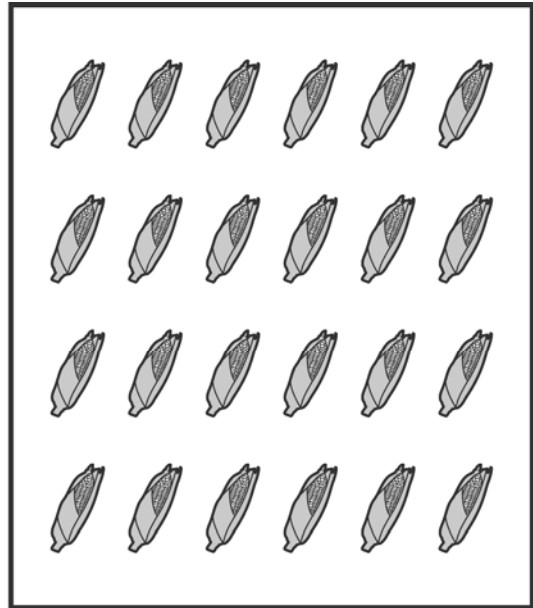
**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

2. Ms. Harper's class grew 24 ears of corn, and they sold  $\frac{1}{4}$  of what they grew. Mr. Liu's class also grew 24 ears of corn, and they sold  $\frac{1}{3}$  of what they grew.

In the pictures below, circle the amount of corn sold in Ms. Harper's class, and circle the amount of corn sold in Mr. Liu's class.



Corn Grown in  
Ms. Harper's Class



Corn Grown in  
Mr. Liu's Class

Write the correct symbol ( <, >, or = ) to compare the fractions.

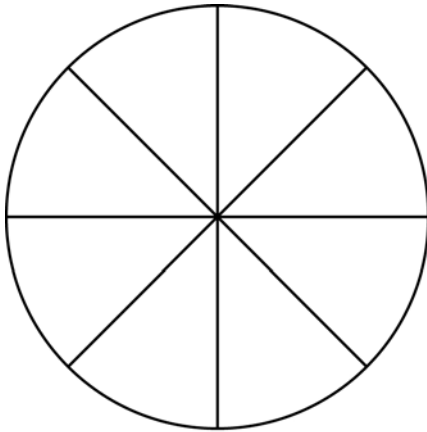
$$\frac{1}{4} \quad \text{—————} \quad \frac{1}{3}$$

How do you know the symbol you chose is correct?

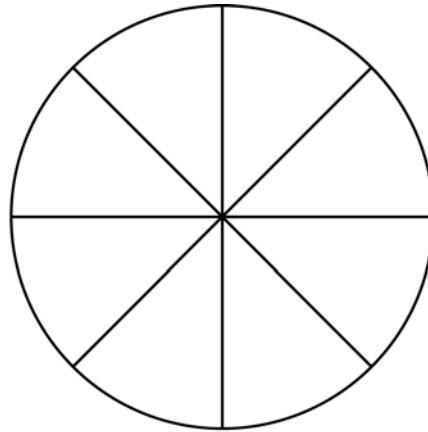
**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

3. Mr. Liu's class and Ms. Belen's class each baked apple pies with apples they grew. Each class baked 1 pie of the same size and cut the pie into 8 slices of equal size.

Mr. Liu's class sold  $\frac{4}{8}$  of their pie, and Ms. Belen's class sold  $\frac{1}{2}$  of their pie. Color in the number of slices of pie sold by each class.



**Pie Baked in  
Mr. Liu's Class**



**Pie Baked in  
Ms. Belen's Class**

Write the correct symbol (  $<$ ,  $>$ , or  $=$  ) to compare the fractions.

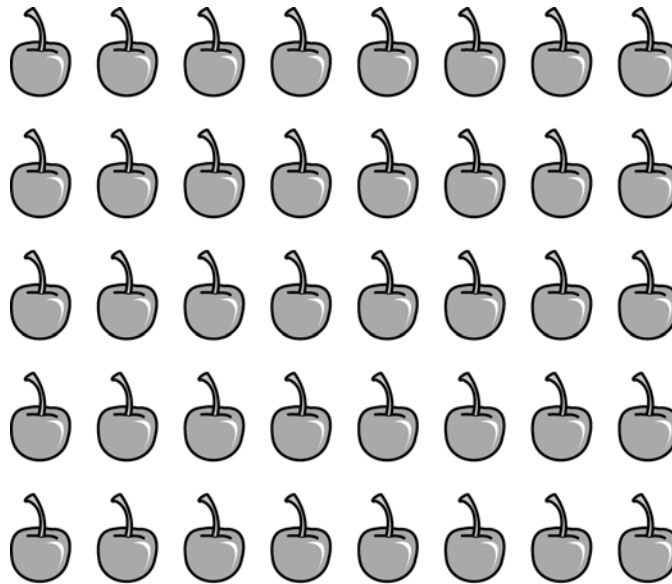
$$\frac{4}{8} \quad \text{—————} \quad \frac{1}{2}$$

How do you know the symbol you chose is correct?

SITES-M Mathematics Challenge  
Focus on Comparing and Ordering Grade 3

4. Sharon has a bag of 40 cherries. She gave  $\frac{1}{8}$  of the 40 cherries to Dave and she gave  $\frac{1}{2}$  of the 40 cherries to Maria.

Circle the amount of cherries she gave to Dave in green,  
and circle the amount of cherries she gave to Maria in red.



40 Cherries in Sharon's Bag

Who got more cherries, Dave or Maria?  Dave  Maria

How do you know?

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**5. Some of the money the classes made by selling their fruits and vegetables is in a list below. Put the amounts of money below in the correct blanks so that they are in order from least to greatest.**

<b>\$3.35</b>	<b>\$33.50</b>	<b>\$35.33</b>	<b>\$5.33</b>	<b>\$3.53</b>	<b>\$0.55</b>
_____	_____	_____	_____	_____	_____
<b>least</b>					<b>greatest</b>

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**School Garden in Order Grade 3**

**Mathematics Challenge**  
**Learning and Teaching Considerations**

**Task 1:**

- A) Be sure that students understand that the word “compare” signifies “to determine a difference in value between two numbers.” For this task, students should determine which of the two numbers has the greater or lesser value.
- B) Be sure that students understand the difference between the greater than ( $>$ ) symbol and the less than ( $<$ ) symbol. Some students may confuse them, so it is important to determine if the explanation of their choice of symbol provides evidence that they understand the mathematical concept. Working with manipulatives or providing a mnemonic [“the symbol opens wide to the number of greater (bigger) value” or “the ‘alligator mouth’ eats the larger number”] may help.
- C) Be sure that students understand that the value of a number is determined by the location of the digits: whether they are in the unit’s place, ten’s place, hundred’s place, etc. (how many one’s, ten’s, hundred’s, etc. there are or which power of 10 they multiply).
- D) Students may answer in words, symbols (digits, dots, dashes, base-10 block representations, etc.), or by using manipulatives (blocks, cubes). They may also use number lines or recall number sense. Be sure they understand that they can get the correct answer using any of these strategies, though some are more efficient.
- E) If a student says or writes, “I just know,” prompt him or her by saying something like “I’m glad you know, but it’s important in math to be able to explain your answers so other people can understand what you’re thinking.” (This applies to the other tasks, as well.)
- F) If a student says or writes, “I don’t know,” say something positive like “Let’s start with what you do know about this problem.” Students often know more than they think or say, and getting them to vocalize or write about that knowledge is all they need. (This applies to the other tasks, as well.)

**Task 2:**

- A) Be sure that students understand that the bottom number (denominator) of a fraction tells how many equal portions the whole or group has been divided into, and the top number (numerator) tells how many portions are being considered.

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

- B)** Some students may have the misconception that each fractional part of a whole or a group does not have to be equal in size or in number, e.g.,  $\frac{1}{4}$  of 24 could be 5, 6, 7, etc. as long as 24 has been divided into four parts.
- C)** For the first part, students may circle/count different ears of corn (rows, columns, scattered ears, etc.), as long as they add up to the correct number represented by the fraction. Be sure they understand that they can get the correct answer using any of these methods.
- D)** Be sure that students understand the difference between the greater than ( $>$ ) symbol and the less than ( $<$ ) symbol. Some students may confuse them, so it is important to determine if the explanation of their choice of symbol provides evidence that they understand the mathematical concept.
- E)** For the second part, students may answer in words, symbols, or by using manipulatives. They may also use number lines or recall number sense and division facts. Be sure they understand that they can get the correct answer using any of these strategies, though some are more efficient.

**Task 3:**

- A)** Be sure that students understand that the bottom number (denominator) of a fraction tells how many equal portions a whole or group has been divided into, and the top number (numerator) tells how many portions are being considered.
- B)** Some students may have the misconception that each fractional part of a whole or a group does not have to be equal in size or in number, e.g.,  $\frac{1}{2}$  of a pie could be larger than the other half, as long as the pie has been divided into two parts.
- C)** For the first part, students may color/count different slices of the pies, as long as they add up to the correct number represented by the fractions (4). Be sure they understand that they can get the correct answer using any of these methods.
- D)** Be sure that students understand the difference between the greater than ( $>$ ) symbol and the less than ( $<$ ) symbol. Some students may confuse them, so it is important to determine if the explanation of their choice of symbol provides evidence that they understand the mathematical concept.
- E)** Be sure that students understand that fractions are equal, or equivalent, as long as they represent the same portion of a whole or group. Working with fraction manipulatives may help.
- F)** For the second part, students may answer in words, symbols, or by using manipulatives. They may also use number lines or recall number sense and division facts. Be sure they understand that they can get the correct answer using any of these strategies, though some are more efficient.



**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**Task 4:**

- A) Be sure that students understand that the bottom number (denominator) of a fraction tells how many equal portions a whole or group has been divided into, and the top number (numerator) tells how many portions are being considered.
- B) Some students may have the misconception that each fractional part of a whole or a group does not have to be equal in size or in number, e.g.,  $\frac{1}{8}$  of 40 could be 5, 6, 7, etc. as long as 40 has been divided into eight parts.
- C) For the first part, students may circle/count different cherries (rows, columns, scattered cherries, etc.), as long as they add up to the correct number represented by the fraction. Be sure they understand that they can get the correct answer using any of these methods.
- D) For the second part, students may answer in words, symbols, or by using manipulatives. They may also count on their fingers, use number lines, or recall number sense and addition/subtraction/division facts. Be sure they understand that they can get the correct answer using any of these strategies, though some are more efficient.

**Task 5:**

- A) Be sure that students understand that the word “greatest” signifies “an amount of more value than all the others,” and the word “least” signifies “an amount of less value than all the others.”
- B) Be sure that students understand that the words “in order” signify “that each amount in the list has a certain relationship to the ones on either side of it.” For this task, each amount of money must be greater in value than the one to its left and lesser in value than the ones to its right.
- C) Be sure that students understand that the words “least to greatest” signify “that the amounts of money should increase in value going from left to right,” as they read.

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

Name: ANSWER KEY Date: \_\_\_\_\_

Ms. Belen's, Ms. Harper's, and Mr. Liu's classes went to the local farmers' market to sell the fruits and vegetables they grew in the school garden.

1. Ms. Belen's class grew 342 strawberries. Ms. Harper's class grew 324 strawberries. Write the correct symbol ( $<$ ,  $>$ , or  $=$ ) to compare the numbers.

$$342 \underline{>} 324$$

Why did you choose that symbol?

$>$  IS THE SIGN FOR  
GREATER THAN, AND  
342 IS MORE THAN 324.

(ANSWERS MAY VARY)

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

2. Ms. Harper's class grew 24 ears of corn, and they sold  $\frac{1}{4}$  of what they grew. Mr. Liu's class also grew 24 ears of corn, and they sold  $\frac{1}{3}$  of what they grew.

In the pictures below, circle the amount of corn sold in Ms. Harper's class, and circle the amount of corn sold in Mr. Liu's class.

NOTE:  
ANY  
 6 CAN  
 BE  
 CIRCLED  
 →



Corn Grown in  
 Ms. Harper's Class



Corn Grown in  
 Mr. Liu's Class

NOTE:  
ANY  
 8 CAN  
 BE  
 CIRCLED  
 ←

Write the correct symbol (<, >, or =) to compare the fractions.

$$\frac{1}{4} < \frac{1}{3}$$

How do you know the symbol you chose is correct?

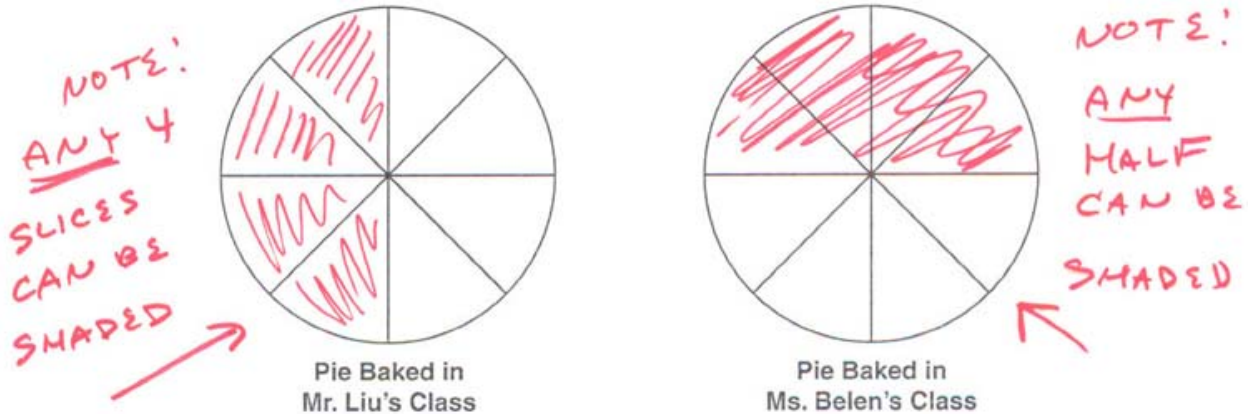
< IS THE LESS THAN SIGN.  
 $\frac{1}{4}$  OF 24 IS 6 AND  $\frac{1}{3}$  OF 24 IS 8.  
 6 IS LESS THAN 8, SO  $\frac{1}{4} < \frac{1}{3}$ .

(ANSWERS  
 MAY  
 VARY)

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

3. Mr. Liu's class and Ms. Belen's class each baked apple pies with apples they grew. Each class baked 1 pie of the same size and cut the pie into 8 slices of equal size.

Mr. Liu's class sold  $\frac{4}{8}$  of their pie, and Ms. Belen's class sold  $\frac{1}{2}$  of their pie. Color in the number of slices of pie sold by each class.



Write the correct symbol ( $<$ ,  $>$ , or  $=$ ) to compare the fractions.

$$\frac{4}{8} = \frac{1}{2}$$

How do you know the symbol you chose is correct?

BOTH CLASSES SOLD THE SAME AMOUNT, SO  $\frac{4}{8} = \frac{1}{2}$ .

(ANSWERS MAY VARY.)

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

4. Sharon has a bag of 40 cherries. She gave  $\frac{1}{8}$  of the 40 cherries to Dave and she gave  $\frac{1}{2}$  of the 40 cherries to Maria.

Circle the amount of cherries she gave to Dave in green, and circle the amount of cherries she gave to Maria in red.

DAVE →

NOTE: ANY 5 CHERRIES CAN BE CIRCLED IN GREEN

← MARIA

NOTE: ANY 20 CAN BE CIRCLED IN RED, AS LONG AS IT HASN'T BEEN CIRCLED IN GREEN.

40 Cherries in Sharon's Bag

Who got more cherries, Dave or Maria?  Dave  Maria

How do you know?

MARIA GOT 20 AND DAVE GOT 5.  
 20 IS MORE THAN 5.  
 (ANSWERS MAY VARY.)

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

5. Some of the money the classes made by selling their fruits and vegetables is in a list below. Put the amounts of money below in the correct blanks so that they are in order from least to greatest.

\$3.35	\$33.50	\$35.33	\$5.33	\$3.53	\$0.55
<u>\$0.55</u>	<u>\$3.35</u>	<u>\$3.53</u>	<u>\$5.33</u>	<u>\$33.50</u>	<u>\$35.33</u>
least					greatest

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**



**SITES-M Mathematics Challenge Rubric  
Focus on Comparing and Ordering Grade 3**

CATEGORY	4	3	2	1
<b>Mathematical Concepts</b>	<b>Response shows complete understanding of the mathematical concepts used to solve the problem(s).</b>	<b>Response shows substantial understanding of the mathematical concepts used to solve the problem(s).</b>	<b>Response shows some understanding of the mathematical concepts needed to solve the problem(s).</b>	<b>Response shows very limited understanding of the underlying concepts needed to solve the problem(s), OR the response is not written.</b>
	<p>Response shows evidence in ALL of the following tasks.</p> <p><b>Task 1.</b> Student uses the <math>&gt;</math> sign and says that it means greater than.</p> <p><b>Task 2.</b> Student uses the <math>&lt;</math> sign and says that it means less than.</p> <p><b>Task 3.</b> Student uses the <math>=</math> sign and says that it means equal to.</p> <p><b>Task 4.</b> Student says that Maria got more than Dave because Maria got 20 and Dave got 5.</p> <p><b>Task 5.</b> Student orders correctly from least to greatest (0.55, 3.35, 3.53, 5.33, 33.50, 35.33).</p>	<p>Response shows evidence in only 4 of the tasks described; may exhibit the following errors.</p> <p><b>Task 4.</b> Student says that Maria got more, but does not mention the actual numbers.</p> <p><b>Task 5.</b> Student orders correctly, but in the opposite direction.</p>	<p>Response shows evidence in only 3 of the tasks described; may exhibit the errors described in category 3.</p>	<p>Response shows evidence in 2 or fewer of the tasks described; may exhibit the errors described in category 3.</p>

**SITES-M Mathematics Challenge Rubric  
Focus on Comparing and Ordering Grade 3**

CATEGORY	4	3	2	1
<b>Strategy/ Procedures</b>	<b>Student typically uses an efficient and effective strategy to solve the problem(s).</b>	<b>Student typically uses an effective strategy to solve the problem(s).</b>	<b>Student sometimes uses an effective strategy to solve problem(s), but not consistently.</b>	<b>Student rarely uses an effective strategy to solve problem(s).</b>
	Response shows evidence in ALL of the following tasks. <b>Task 2.</b> Student provides evidence of counting ears of corn (numbers, tally marks, pencil marks, etc.). <b>Task 3.</b> Student provides evidence of counting slices of pie (numbers, tally marks, pencil marks, etc.). <b>Task 4.</b> Student provides evidence of counting cherries (numbers, tally marks, pencil marks, etc.).	Response shows evidence in only 2 of the tasks described in category 4.	Response shows evidence in only 1 of the tasks described in category 4.	Response shows no evidence of counting.

**SITES-M Mathematics Challenge Rubric  
Focus on Comparing and Ordering Grade 3**

CATEGORY	4	3	2	1
<b>Explanation/ Communication</b>	<b>Explanation is detailed and clear; uses appropriate terminology and/or notation.</b>	<b>Explanation is clear; uses some appropriate terminology and/or notation.</b>	<b>Explanation is a little difficult to understand, but includes critical components; little use of appropriate terminology and/or notation.</b>	<b>Explanation is difficult to understand, is missing several components, does not use or include appropriate terminology and/or notation.</b>
	<p>Response shows evidence in ALL of the following tasks.</p> <p><b>Task 1.</b> Student explains that 342 is more than (or bigger than) 324 and so the correct symbol to use is <math>&gt;</math>.</p> <p><b>Task 2.</b> Student explains that <math>\frac{1}{4}</math> of 24 is 6 and <math>\frac{1}{3}</math> of 24 is 8, and since 6 is less than 8, <math>\frac{1}{4}</math> must less than <math>\frac{1}{3}</math> and the correct symbol to use is <math>&lt;</math>.</p> <p><b>Task 3.</b> Student explains that <math>\frac{4}{8}</math> of a pie is 4 slices and <math>\frac{1}{2}</math> of a pie is 4 slices (OR that <math>\frac{4}{8}</math> of the pie is <math>\frac{1}{2}</math> of the pie), and that since both classes sold 4 slices each, <math>\frac{4}{8}</math> must equal <math>\frac{1}{2}</math> and the correct symbol to use is <math>=</math>.</p> <p><b>Task 4.</b> Student explains that Maria got 20 cherries and that Dave got only 5 cherries, so Maria got more.</p>	<p>Response shows evidence in only 3 of the tasks, but may lack detail in explanation, as evidenced by the following.</p> <p><b>Task 2.</b> Student does not connect <math>\frac{1}{4}</math> with 6 or <math>\frac{1}{3}</math> with 8.</p> <p><b>Task 3.</b> Student does not connect <math>\frac{1}{2}</math> pie with 4 slices.</p> <p><b>Task 4.</b> Student does not connect <math>\frac{1}{2}</math> with 20 or <math>\frac{1}{8}</math> with 5.</p>	<p>Response shows evidence in only 2 of the tasks, with errors described in category 3.</p>	<p>Response shows evidence in only 1 or fewer of the tasks, with errors described in category 3.</p>

**SITES-M Mathematics Challenge Rubric  
Focus on Comparing and Ordering Grade 3**

CATEGORY	4	3	2	1
<b>Mathematical Accuracy</b>	<b>Response shows all or almost all of the steps and solutions have no mathematical errors.</b>	<b>Response shows most of the steps and solutions have no mathematical errors.</b>	<b>Response shows some of the steps and solutions have no mathematical errors.</b>	<b>Response shows few of the steps and solutions have no mathematical errors.</b>
	<p>Student provides correct answers for ALL of the following tasks.</p> <p><b>Task 2.</b> Student circles any 6 ears of corn in left box AND any 8 ears of corn not already circled in right box.</p> <p><b>Task 3.</b> Student shades any 4 slices of pie on the left and any 4 slices of pie on the right.</p> <p><b>Task 4.</b> Student circles any 5 cherries in green, any 20 cherries in red, and no cherry is circled more than once.</p> <p><b>Task 5.</b> Order is correct (although may be listed in opposite direction).</p>	<p>Student provides correct answers for only 3 of the tasks described in category 4.</p>	<p>Student provides correct answers for only 2 of the tasks described in category 4..</p>	<p>Student provides a correct answer for only 1 task or none of the tasks described in category 4.</p>

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**

**Compare Order Grade 3**

**Scoring Notes Checklist**

<b>Task</b>	<b>Check Yes</b>	<b>Category</b>
<b>Task 1</b>		
Uses > sign AND indicates that it means greater than.		Concept
Explains that 342 is more than 324 and that is why the sign > is correct.		Explanation
<b>Task 2</b>		
Uses < sign AND indicates that it means less than.		Concept
Provides evidence of counting (i.e., writes numbers or marks next to ears of corn).		Strategy
Explains that 1/4 of 24 is 6 and that 1/3 of 24 is 8, and that because 6 is less than 8, 1/4 must be less than 1/3.		Explanation
Circles any 6 ears of corn in left box AND any 8 ears of corn in right box.		Accuracy
<b>Task 3</b>		
Uses = sign AND indicates that it means equal to.		Concept
Provides evidence of counting (i.e., writes numbers or marks in each pie slice).		Strategy
Explains that 4/8 of pie on left is 4 slices AND 1/2 of pie on right is also 4 slices, so $4/8 = 1/2$ .		Explanation
Shades any 4 slices on the left pie AND any 4 slices on the right pie.		Accuracy
<b>Task 4</b>		
Indicates that Maria got more than Dave because Maria got 20 cherries and Dave got only 5 cherries.		Concept
Provides evidence of counting (i.e., writes numbers or marks next to cherries).		Strategy
Explains that 1/8 of 40 is 5 and 1/2 of 40 is 20, and that because 20 is more than 5, 1/2 is more than 1/8. Therefore, Maria got more cherries.		Explanation
Circles any 5 cherries in green and any 20 cherries in red, AND no cherry is circled more than once.		Accuracy
<b>Task 5</b>		
Lists in order (0.55, 3.35, 3.53, 5.33, 33.50, 35.33).		Concept
Lists in order (but may go greatest to least).		Accuracy

**SITES-M Mathematics Challenge**  
**Focus on Comparing and Ordering Grade 3**



